

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47- _____ - _____ County _____ District _____
Quad _____ Pad Name _____ Field/Pool Name _____
Farm name _____ Well Number _____
Operator (as registered with the OOG) _____
Address _____ City _____ State _____ Zip _____

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing _____ Easting _____
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) _____ GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)

Date permit issued _____ Date drilling commenced _____ Date drilling ceased _____
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) _____

Reviewed by:

API 47- _____ - _____ Farm name _____ Well number _____

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) _____ Loggers TD (ft) _____
 Deepest formation penetrated _____ Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

Check all wireline logs run
 caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall
 Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- _____ - _____ Farm name _____ Well number _____

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

API 47- _____ - _____ Farm name _____ Well number _____

PRODUCING FORMATION(S)

DEPTHS

_____	_____ TVD	_____ MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd

GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
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***PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company _____
Address _____ City _____ State _____ Zip _____

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by _____ Telephone _____
Signature _____ Title _____ Date _____

API 47-085-10348 Farm Name David L. Weekley Revocable Trust Well Number Ray Unit 3H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/11/2019	14186.2	14240.8	60	Marcellus
2	8/12/2019	13988.65	14155.275	60	Marcellus
3	8/12/2019	13791.1	13957.725	60	Marcellus
4	8/12/2019	13593.55	13760.175	60	Marcellus
5	8/13/2019	13396	13562.625	60	Marcellus
6	8/13/2019	13198.45	13365.075	60	Marcellus
7	8/13/2019	13000.9	13167.525	60	Marcellus
8	8/13/2019	12803.35	12969.975	60	Marcellus
9	8/14/2019	12605.8	12772.425	60	Marcellus
10	8/14/2019	12408.25	12574.875	60	Marcellus
11	8/14/2019	12210.7	12377.325	60	Marcellus
12	8/15/2019	12013.15	12179.775	60	Marcellus
13	8/15/2019	11815.6	11982.225	60	Marcellus
14	8/15/2019	11618.05	11784.675	60	Marcellus
15	8/15/2019	11420.5	11587.125	60	Marcellus
16	8/16/2019	11222.95	11389.575	60	Marcellus
17	8/16/2019	11025.4	11192.025	60	Marcellus
18	8/16/2019	10827.85	10994.475	60	Marcellus
19	8/16/2019	10630.3	10796.925	60	Marcellus
20	8/17/2019	10432.75	10599.375	60	Marcellus
21	8/17/2019	10235.2	10401.825	60	Marcellus
22	8/17/2019	10037.65	10204.275	60	Marcellus
23	8/17/2019	9840.1	10006.725	60	Marcellus
24	8/17/2019	9642.55	9809.175	60	Marcellus
25	8/18/2019	9445	9611.625	60	Marcellus
26	8/19/2019	9247.45	9414.075	60	Marcellus
27	8/19/2019	9049.9	9216.525	60	Marcellus
28	8/19/2019	8852.35	9018.975	60	Marcellus
29	8/19/2019	8654.8	8821.425	60	Marcellus
30	8/19/2019	8457.25	8623.875	60	Marcellus
31	8/20/2019	8259.7	8426.325	60	Marcellus
32	8/20/2019	8062.15	8228.775	60	Marcellus
33	8/20/2019	7864.6	8031.225	60	Marcellus
34	8/20/2019	7667.05	7833.675	60	Marcellus
35	8/21/2019	7469.5	7636.125	60	Marcellus
36	8/21/2019	7271.95	7438.575	60	Marcellus
37	8/21/2019	7074.4	7241.025	60	Marcellus
38	8/21/2019	6876.85	7043.475	60	Marcellus

EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	8/11/2019	70.1	7155	6524	3160	201840	5616	N/A
2	8/12/2019	77.92	7636	6326	2946	404660	8691	N/A
3	8/12/2019	78.08	7352	6429	3094	403040	8678	N/A
4	8/12/2019	77.24	7261	5640	3231	404600	8801	N/A
5	8/13/2019	75.85	7362	5618	3529	406840	10340	N/A
6	8/13/2019	72.51	7674	5675	3263	404320	8819	N/A
7	8/13/2019	72.03	7839	5285	3170	403440	8754	N/A
8	8/13/2019	77.35	8188	5441	3326	406120	8661	N/A
9	8/14/2019	78	8246	5582	3280	401400	8821	N/A
10	8/14/2019	75.6	8075	6437	3529	403640	8795	N/A
11	8/14/2019	77.2	8134	5660	3438	411460	9126	N/A
12	8/15/2019	78.57	8059	5218	3552	403080	8689	N/A
13	8/15/2019	78	8230	5641	3500	406380	8572	N/A
14	8/15/2019	79.8	8224	5693	3585	401660	8650	N/A
15	8/15/2019	81.38	8203	4476	3905	401160	8610	N/A
16	8/16/2019	82.55	8422	5628	3481	406820	8587	N/A
17	8/16/2019	82.7	8183	5680	3600	405380	8597	N/A
18	8/16/2019	84	8350	5826	3696	413820	8792	N/A
19	8/16/2019	85.03	8190	5133	3609	411940	8575	N/A
20	8/17/2019	82.5	8018	5571	3427	409520	8672	N/A
21	8/17/2019	82.5	8304	4955	3746	407380	8518	N/A
22	8/17/2019	83.1	8332	5996	3554	398620	8543	N/A
23	8/17/2019	85.15	8041	5509	3609	404980	8479	N/A
24	8/17/2019	84.43	8152	5611	3576	412920	8582	N/A
25	8/18/2019	82.09	7609	5913	3848	414520	8710	N/A
26	8/19/2019	84.65	8077	5699	3576	404640	8334	N/A
27	8/19/2019	87.32	7918	5768	3431	401240	8320	N/A
28	8/19/2019	85	7838	5716	3660	410080	8581	N/A
29	8/19/2019	85.7	8034	5734	3642	418020	8701	N/A
30	8/19/2019	86.06	7986	5973	3699	411840	8572	N/A
31	8/20/2019	85.63	8007	6034	3739	417280	8647	N/A
32	8/20/2019	85.9	7865	5833	3710	402420	8470	N/A
33	8/20/2019	88.2	8065	5368	3863	400440	8545	N/A
34	8/20/2019	81.01	7738	6102	3986	398060	8427	N/A
35	8/21/2019	83.23	7751	5380	3892	400420	8411	N/A
36	8/21/2019	85.75	7898	5465	3851	400320	8437	N/A
37	8/21/2019	87	7856	5435	3796	400040	8384	N/A
38	8/21/2019	86.29	7842	6006	3879	400120	8276	N/A
	AVG	81.5	7,950	5,684	3,563	15,214,460	325,783	TOTAL

EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Silty sandstone	0	225	0	225
Silty sandstone w/ coal	225	265	225	265
Sandy Siltstone	265	325	265	325
Silty sandstone	325	405	325	405
Sandy sahle	405	425	405	425
Sandy, limy siltstone	425	485	425	485
Sandstone	485	585	485	585
Siltstone	585	685	585	685
Sandstone w lime stingers	685	1,275	685	1,275
Silty sandstone	1,275	1,685	1,275	1,685
Limy shale	1,685	1,905	1,685	1,905
Sandstone	1,905	2,045	1,905	2,045
Siltstone	2,045	2,066	2,045	2,083
Big Lime	2,081	2,836	2,059	2,839
Fifty Foot Sandstone	2,836	3,020	2,815	3,024
Gordon	3,020	3,116	3,000	3,120
Fifth Sandstone	3,116	3,531	3,096	3,543
Bayard	3,531	4,122	3,519	4,150
Speechley	4,122	4,360	4,126	4,395
Balltown	4,360	4,968	4,371	5,022
Bradford	4,968	5,348	4,998	5,413
Benson	5,348	5,564	5,389	5,635
Alexander	5,564	6,401	5,611	6,553
Sycamore	6,275	6,377	6,393	6,529
Middlesex	6,377	6,484	6,529	6,718
Burkett	6,484	6,513	6,718	6,779
Tully	6,513	6,532	6,779	6,831
Marcellus	6,532	NA	6,831	NA

*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.